

Table # 2: Infant Immunization
MazariSharif, Afghanistan, January 1994

# in clusters	Total 212	
Male	111	% of 212 52.4%
Female	101	47.6%
card/yes	67	31.6%
BCG card	66	31.1%
card + history	183	86.3%
BCG scar	182	85.8%
Source:		% of 183
Hospital	141	77.0%
Health Centre	38	20.8%
Outreach	3	1.6%
Private	1	0.5%
DPT1 card	67	% of 212 31.6%
card + history	174	82.1%
DPT2 card	59	27.8%
card + history	160	75.5%
DPT3 card	49	23.1%
card + history	135	63.7%
Source:		% of 469
Hospital	358	76.3%
Health Centre	103	22.0%
Outreach	7	1.5%
Private	1	0.2%

Table # 3 Infant Immunization
MazariSharif, Afghanistan, January 1994

# in clusters	Total 212	
		% of 212
OPV1 card	62	29.2%
card + history	161	75.9%
OPV2 card	56	26.4%
card + history	152	71.7%
OPV3 card	48	22.6%
card + history	133	62.7%
Source:		% of 443
Hospital	331	74.7%
Health Centre	105	23.7%
Outreach	7	1.6%
Private	0	0.0%
		% of 212
Measles card	52	24.5%
card + history	132	62.3%
Source:		% of 132
Hospital	99	75.0%
Health Centre	30	22.7%
Outreach	2	1.5%
Private	1	0.8%
		% of 212
Not immunized	29	13.7%
Partly immunized	137	64.6%
Fully immunized	45	21.2%
Fully immunized<1yr	42	19.8%
Households visited	774	Avg #hh/cluster 25.8

Table # 4: Reasons for Immunization Failure
MazariSharif, Afghanistan, January 1994

Lack of Information- Unaware of /misinformed about:

Need for immunization	15	9.0%
Need for 2nd,3rd dose	4	2.4%
Place/time of immuniz	4	2.4%
Side-reactions	3	1.8%
Contraindications	3	1.8%
Other	0	0.0%
<i>Subtotal</i>	29	17.5%

Lack of Motivation-

Postponed	10	6.0%
No faith in immunizatio	7	4.2%
Rumours	1	0.6%
Other	0	0.0%
<i>Subtotal</i>	18	10.8%

Obstacles-

Too far	5	3.0%
Time inconvenient	4	2.4%
Absent vaccinator	7	4.2%
Vaccine unavailable	2	1.2%
Mother too busy	9	5.4%
Family problem	11	6.6%
Child ill,not brought.	13	7.8%
Child ill,brought, not in	3	1.8%
Long waiting	2	1.2%
Other	3	1.8%
<i>Subtotal</i>	59	35.5%

Mother claims baby immunized but has lost card:

61	36.5%
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TOTAL	167
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Table # 5: Revised Reasons for Immunization Failure
MazariSharif, Afghanistan, January 1994

<u>Lack of awareness</u>	Total	% of 106
Unaware of need	15	14.2%
Postponed	10	9.4%
No faith in immunization	7	6.6%
Rumours	1	0.9%
<i>Subtotal</i>	33	31.1%
<u>Logistical problems</u>		
Too far	5	4.7%
Time Inconvenient	4	3.8%
Absent vaccinator	7	6.6%
Vaccine unavailable	2	1.9%
Place/time of imm	4	3.8%
Long waiting	2	1.9%
<i>Subtotal</i>	24	22.6%
<u>Lack of Specific Information</u>		
Need for 2nd,3rd dose	4	3.8%
Side-reactions	3	2.8%
Contraindications	3	2.8%
Child ill,not brought.	13	12.3%
Child ill,brought, not im	3	2.8%
<i>Subtotal</i>	26	24.5%
<u>Problems at Home</u>		
Mother too busy	9	8.5%
Family problem	11	10.4%
<i>Subtotal</i>	20	18.9%
Other	3	2.8%
TOTALS	106	100.0%

APPENDICES

1. Authorization letter from provincial government.
2. Authorization letter from MazariSharif Municipality.
3. List of the interviewers and assistant.
4. List of persons contacted in relation to the survey.
5. Maps of MazariSharif and Balkh (3).
6. Cluster identification forms (5).
7. Sample infant immunization card.
8. Sample mother immunization card.
9. Farsi cluster form for infant immunization.
10. Farsi cluster form for reasons for immunization failure.
11. Farsi cluster form for tetanus toxoid immunization of women.
12. Summary sheet for infant immunizations (2).
13. Summary sheet for reasons for immunization failure.
14. Summary sheet for tetanus toxoid immunization of women.

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مدیریت عمومی اداری - تاریخ ۲۰/۱۰/۱۳۷۰

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مجلس مشیر حارری منہ ارشاد کفر

کتاب محرم قهر جاری - اداره جرائد
کتابخانه - ۸۰۰ - دسمبر ۱۹۹۳ - اداره جرائد - لونیٹیف

سفر متاور و محول و صل و صل

سقیم مبتلا و زخمی و زایل و زایل است
و و لتور عبد القادر است چنانی، غرض از زیاری سعادت است لکن در
مهر نزار کف و علامت است ایضا نشان در آف یونسف کامل
چشمندم تا مایه را

سقیم پشاور اور شہریت در کا محو نامہ نور
دین احمد مصمم : ناسی دگی اطفال و حکامی لغو و محو نامہ نور

دین امدیہم : ناسد فی افعال افعال
مدرب اورنا قومیت و خود و خود و خود
خوش و خوش و خوش و خوش و خوش و خوش

لوڑھی لے تی مرلومہ باستان ہماری خوجعہ فرسودہ

~~المستأجر~~

رِسِّ عَرِّ عَمِّ وَلَدِ

ریاست شهرداری ولایت بلخ

ریاست اداری

مدیریت عمومی - ورین

۱۱۱۹
۵۵۸

۳۰ اردیبهشت ۱۳۳۵

پیرایست

کتاب نمبر (۱۷۰۱ و ۵۴۱) ۲۰۲۰ ریاست

بحث عامه ولایت بلخ واصل و دیلا - ینگارد

کتاب () (۸) د سپر سال ۱۳۶۳ اداره محترم

یونسف مقیم پشاور به نمون ذیل واصل است

د وکتور عبدالغیاث صافی غرض ارزیابی معافیت کلوی اطفال

در شهره راپ شریف ولایت بلخ افغانستان از طرف یونسف کابل

مقیم پشاور مایور شد ماست از سدا محترمانه خواهشمندیم تا ناچرده

را درین له مرهم به نمایندگی اطفال افغانستان همکاری نموده

بنون مبارکند

مراتب احتراماً به تجریر یافت و خود محترم د وکتور عبدالغیاث صافی

نیز غرض اجرای امر مطلوبه معرفی شد در پیشبرد این پرونده

از طریق نوائی های مربوطه با ایشان همکاری خواهند فرمود

با احترام

محمد رسول محمد
شهردار مزار

محمد رسول محمد

EPI COVERAGE SURVEY
MAZAR-I-SHARIF, BALKH PROVINCE - AFGHANISTAN

30 CLUSTER TECHNIQUE

DATE: 16 - 22 JAN 1994

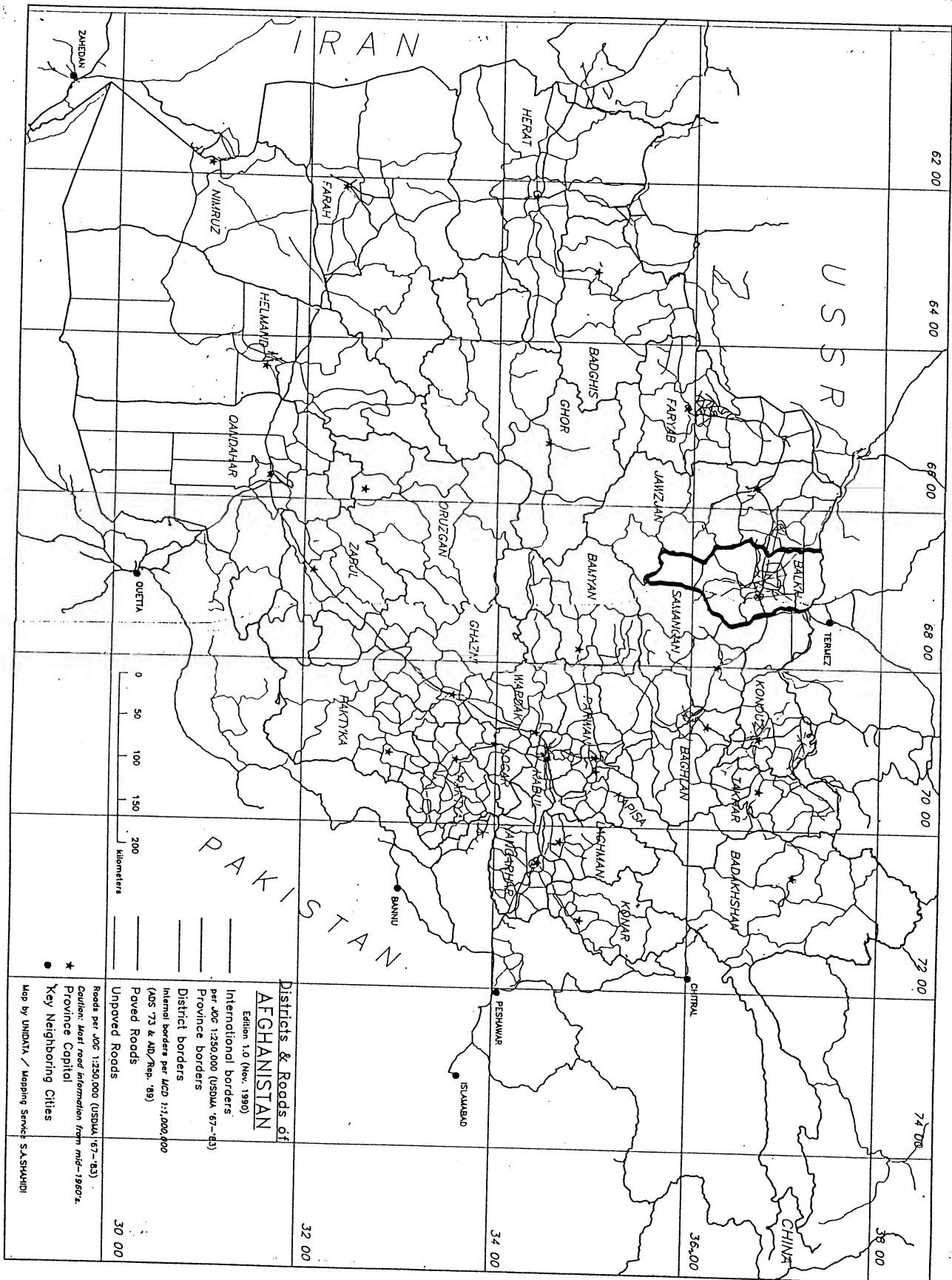
No	Name	Department	Designation	Amount	Sign
01	Dr. B.J.Azizi	Paediatrics	Interviewer		
02	Dr. Habiba	"	"		
03	Dr. S.Habib	"	"		
04	Dr. Asma Rahim	"	"		
05	Dr. Afzal	Inf.disease	"		
06	Dr. Fahima	Pathology	"		
07	Dr. Saleh	Biochemistry	"		
08	Dr. J.Wardak	Pharmacology	"		
09	Dr. Manizha	Pathology	"		
10	Dr. Muasher	"	"		
11	Dr. Khan Jan	"	"		
12	Dr. Sidiga	Paediatrics	"		
13	Dr. M. Turabi	Preu. Med.	Assistant		

PERSONS CONTACTED IN RELATION TO SURVEY

- 1- Governor of Balkh province Alhaj Molavi (Senior clergy) Mohd Osman Salek Zada.
 - 2- Mazari Sharif Mayor Mr. Mohd Omari.
 - 3- Deputy Mayor Mr. Abdul Khaliqui uldash.
 - 4- Dr. R. Haidari director of Public Health, Balkh province.
 - 5- Dr. Kazim Taura - Dean faculty of Med Balkh university.
 - 6- Head of the Dept of Prev. Medicine faculty of medicine, Dr. M. Turabi.
 - 7- Director of the first district of Mazari sharif Municipality, Mr. Naïem Aman.
 - 8- Director of the 2nd Municipal district, Mr. Abdullah.
 - 9- Director of the 3rd district, Mr. Sayed Sharif Gharibzada.
 - 10- Director of 4th district, Mr. Abdul Majid.
 - 11- Director of 5th district, Mr. Sayed Yahya.
 - 12- Director of 6th district, Mr. Aminullah Burna.
 - 13- Director of 7th district, Mr. Bohan Ali.
- Mr. S.A. Aziz. programme Manager UNDP.

UNICEF office (Mazar-e-sharif).

- 1- Mr. N. Moeini director.
- 2- Mr. S.L. Sharestha.
- 3- Mrs. P. Sabety.
- 4- Mr. M. Hashim khwaja Omari
- 5- Mrs. H. Azami
- 6- Mrs. S. Parwak.
- 7- Mr. D. Kohi.
- 8- Eng. Sebgahatullah Salimi.
- 9- Dr. Mohd Qadir Haikal.



IMMUNIZATION COVERAGE SURVEY

Mazar-i-Sharif, Afghanistan

January 18-22, 1994

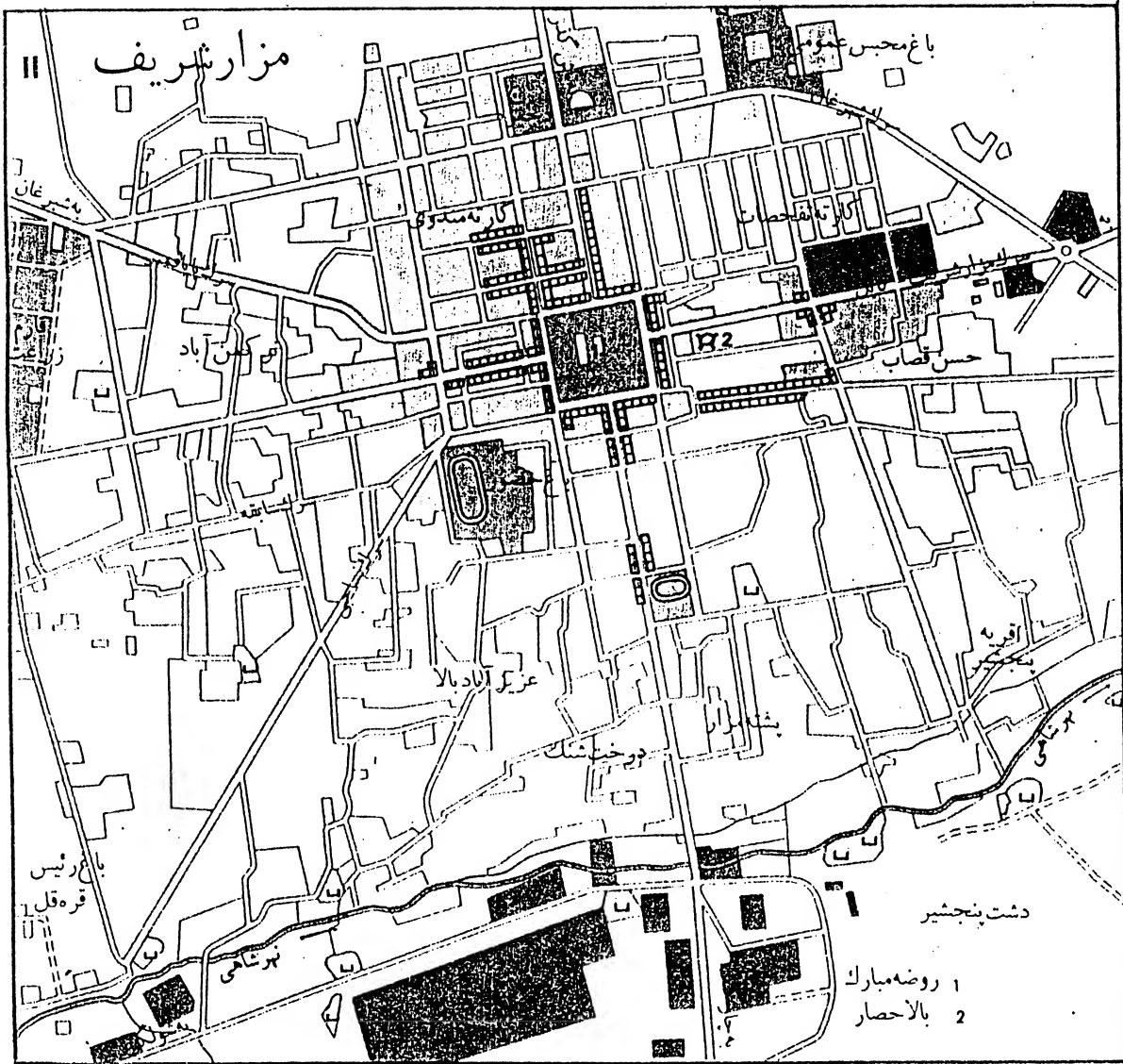
Research and Advisory Council of Afghanistan

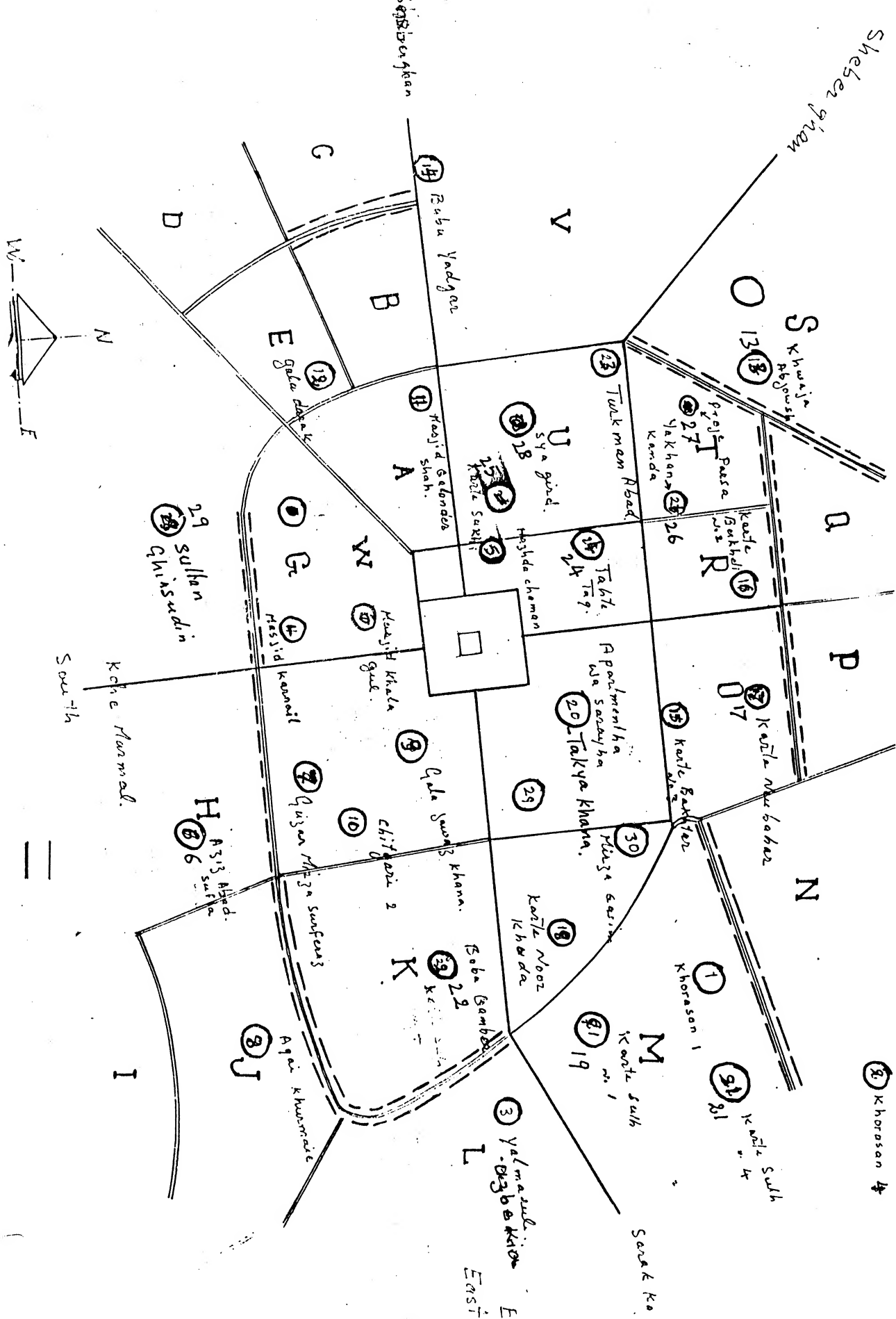
Investigators

Abdul Ghias Safi, MD, MPH

S.R. Kakar, MD, MPH

UNICEF Grant 21 NOV 93





EPI COVERAGE SURVEY CLUSTER IDENTIFICATION FORM

LOCATION: MAZAR-I-SHARIF

DATE: / /

SER. NO.	NAME OF COMMUNITY	POPULATION	CUMULATIVE POPULATION	CLUSTER
001	Kharasan 1	9024	9024	1
002	Kharasan 2	6672	15696	
003	Kharasan 3	3100	18796	
004	Kharasan 4	6120	24916	2
005	Kharasan 5	2400	27316	
006	Yalmarah. Paghmani	3710	31026	
007	Yalmarah. Uzbekia	2500	33526	3
008	Yalmarah. Pusht Nehr	5000	38526	
009	Masjid Karnail	2500	41026	4
010	Nehr i Toop	5000	46026	
011	Takhte Sang	1500	47526	
012	Derwaza Shadian	200	47726	
013	Istalefa	5000	52726	
014	Hazhda chaman	1500	54226	5
015	Darbar	300	54526	
016	Ishani	300	54826	
017	Masjid Khala Gul	1500	56326	
018	Aziz Abad Aulia	4520	60846	
019	Aul chinar	2920	63766	
020	Aziz Abad Sukla	2500	66266	6
021	Masjid Marmal	2112	68378	
022	Masjid Marmal 2	2392	70770	
023	Guzar Khan Aqua	2240	73010	
024	Guzar Hayat	2840	75850	

SAMPLING INTERVAL A: 11049 RANDOM NO. B: 10675

EPI COVERAGE SURVEY CLUSTER IDENTIFICATION FORM

LOCATION: MAZAR-I-SHARIF

DATE: / /

SER. NO.	NAME OF COMMUNITY	POPULATION	CUMULATIVE POPULATION	CLUSTER
025	Mirza Sarferaz	2040	77890	7
026	Guzar Hasan Basak	1280	79170	
027	G. Mirwali	640	79810	
028	G. Khoja Qalal	760	80570	
029	G. Audena	1280	81850	
030	G. Panjsher	1560	83410	
031	G. Salam Abad	1120	84530	
032	G. Agwai Kharmai	2560	87090	
033	Agwai Kharmai	1000	88090	8
034	Projet H	1000	89090	
035	Proje Ariana	6112	95202	
036	Ali Chopan	2448	97650	
037	Mohd haig	622	98272	
038	Naderi	372	98644	
039	Qala Jawaz khana	910	99554	9
040	Arabi ha	560	100114	
041	Kilkin	959	101073	
042	Nails khair kha	1610	102683	
043	Lug Lug khana	560	103243	
044	Guladian	1995	105238	
045	Peste Mazar	560	105798	
046	Mulla Juma Khan	560	106358	
047	chet Gari 1	910	107268	
048	chet Gari 2	2520	109788	10

SAMPLING INTERVAL A: 11045 RANDOM NO. B: 10675

EPI COVERAGE SURVEY CLUSTER IDENTIFICATION FORM

LOCATION: MAZAR-I-SHARIF

DATE: / /

SER. NO.	NAME OF COMMUNITY	POPULATION	CUMULATIVE POPULATION	CLUSTER
049	Takhte Toot	770	110558	
050	Tanurek	616	111174	
051	Darwaza Bulkh	2200	113374	
052	Masjid Balander shah	5500	118874	11
053	Shahr Takzan	8000	126874	
054	Qala Darak.	1300	128174	12
055	Chogh dalk.	8500	136674	
056	Qala Chazia	1500	138174	
057	Khoja Aliyoush	2400	140574	13
058	Mofiti Tunagul	2100	142674	
059	Pada khana	1400	144074	
060	Balia Gamber	1700	145774	
061	Balia Yadgar	7000	152774	14
062	Khoja Khairiana	1260	154034	
063	Masjid Itlague	2610	156644	
064	Karte Bakhter 1	1746	158390	
065	Karte Bakhter 2	1550	159940	
066	Karte Bakhter 3	1042	160982	15
067	Karte Bukhdi 1	4845	165827	
068	Karte Bukhdi 2	5072	170899	16
069	Karte Bukhdi 3	3709	174608	
070	Karte Neubahan 1	3175	177783	
071	Karte Neubahan 2	3575	181358	17
072	Sai Dukan	3465	184823	

SAMPLING INTERVAL A: _____

RANDOM NO. B: _____

EPI COVERAGE SURVEY CLUSTER IDENTIFICATION FORM

LOCATION: MAZAR-I-SHARIF

DATE: / /

SER. NO.	NAME OF COMMUNITY	POPULATION	CUMULATIVE POPULATION	CLUSTER
073	Sayed Almad.	4050	188873	
074	Kandak Kohi	810	189683	
075	Nen Almad	990	190673	
076	Karte Nour Khuda	4110	194783	18
077	Apartmentha Wasaray.14	790	209573	
078	Karte Sulh 1	7890	217463	19
079	Karte Sulh 2	5460	222923	
080	Takia Khana	3200	226123	20
081	Karte Sulh 3	3600	229723	
082	Karte Sulh 4	6600	236323	21
083	Burgham	8241	244564	
084	Bala Bamber	6830	251394	22
085	Karte Mamarin	5251	256645	
086	Turkman Abad	8128	264773	23
087	Baqhi Zakhira	7142	271915	
088	Takhte Taqur	4745	276660	24
089	Karte Mandawi	6242	282902	
090	Karte Sakhi	2138	285040	25
091	Yakh dan	5774	290814	
092	Yakhan Kanda	5681	296495	26
093	Turkman Almad Nen.	1994	298416	
094	Proje Q	2675	301084	
095	Proje. Parza	2763	303854	27
096	Agah. Tafakusat	5400	309254	

SAMPLING INTERVAL A: 11049

RANDOM NO. B: 10675

**EPI COVERAGE SURVEY
CLUSTER IDENTIFICATION FORM**

LOCATION: MAZAR-I-SHARIF

DATE: / /

[illegible]

SAMPLING INTERVAL A: 11049 RANDOM NO. B: 10675

Name: _____

Father's Name: _____

Sex: _____

Date of Birth: _____

Age: _____

Clinic: _____

Village/Area: _____

District/Sub-district: _____

Province: _____

Registration No: _____

Type of Vaccine نوع اللقاح	Date Vaccinated تاريخ التطعيم	Vaccination Schedule جدول التطعيمات
DTaP د.ت.ا.ب		
MM م.م		
DTIII د.ت.ث		
DTIV د.ت.ف		
DTV د.ت.ف		

اسم:
 نام:
 ولد:
 پدر نام:
 جنس:
 تاریخ تولد:
 دزیزلو نیت:
 سن:
 عر:
 کلینک:
 قریه / کلی:
 ولسوالی و علاقه داری:
 ولایت:
 غیر راجستر:
 دراجستر غیر:

Type of Vaccine	Date vaccinated	Vaccination Schedule
نوع واکسین ما دواکسین ریم	تاریخ تطبیق واکسین دلکولو تاریخ	پروگرام تطبیق واکسین دواکسین لکولو پروگرام
B C G بی سی جی		At Birth or soon after هنگام تولد یا هرچه زودتر دزیزلو له روغی یا هرچه زو
DPT/Polio I دی پی تی پولیو ۱		6 weeks of age or soon after دریش هفته گی یا هرچه زودتر دروسته له شپورو فطری یا هرچه زو
DPT/Polio II دی پی تی پولیو ۲		4 weeks after DPT/ Polio I ۴ هفته بعد از دی پی تی پولیو ۱ له دی پی تی پولیو ۱ څخه ۴ هفته دروسته
DPT/Polio III دی پی تی پولیو ۳		4 weeks after DPT/ Polio II ۴ هفته بعد از دی پی تی پولیو ۲ له دی پی تی پولیو ۲ څخه ۴ هفته دروسته
Measles سورجگان Polio IV پولیو ۴		At 9 months of age or soon after در ۹ مایگی یا هرچه زودتر بعد از آن ۹ میاشتې عاشریم ته یا هرچه زو تر دی عمر

Cluster Form Infant Immunization

(1) Cluster Number: <u>Gender</u>												TOTAL	Card	Card plus history		
(2) Date: _____		(5)														
(3) Area: _____		N														
(4) Range of birth dates: From: _____ Until: _____		A M E														
Child number in cluster			1	2	3	4	5	6	7	8						
(6) Birth date																
(7) Immunization Card	Yes/No															
(8) BCG	Date/+0															
	Scar: Yes/No/A															
	Source															
(9) DPT 1	Date/+0															
	Source															
DPT 2	Date/+0															
	Source															
DPT 3	Date/+0															
	Source															
(10) OPV 1	Date/+0															
	Source															
OPV 2	Date/+0															
	Source															
OPV 3	Date/+0															
	Source															
(11) Measles	Date/+0															
	Source															
(12) Immunization Status	Not															
	Partially															
	Fully															
(13) Fully immunized before one year of age	Yes/No															

(14) Tally of households visited: _____

(15) Name of interviewer: _____

Signature: _____

KEY: Date/+0:

Date = copy date of immunization from card, if available
+ = mother reports immunization was given
0 = immunization not given

Source:

CAJF = Outbreak
HOSP = Hospital
HC = Health Center
PMV = Private/government

1. Introduction:

Afghanistan has one of the highest infant mortality rates in the world and certainly the low immunization coverage among pregnant women and among children during the first year of life may be a major cause. In order to find a good estimate of the immunization coverage in one major city of Afghanistan in 1993-4 and the reasons for immunization failure, a survey using the cluster sampling technique borrowed and modified from the EPI Coverage Survey Manual of WHO revised in 1991 was carried out in Mazar-i-Sharif, Balkh Province, Afghanistan, between January 18 and 22, 1994.

2. Background

Mazar-i-Sharif is the capital of Balkh Province located in the north of Afghanistan. It is surrounded by Samangan Province to the east, by Jouzjan Province to the west, by Sarepul Province to the south, and by the Oxus River (Amu Darya) bordering with Uzbekistan to the north.

According to the latest population estimate, Mazar-i-Sharif has a population of 331,247, a considerable jump from the 1990 estimate of 127,839. The city has been divided into seven geographical districts. The population is not evenly distributed in these districts; for example, District I has a population of 13,524 while district III has 79,164. The average population density is about 7000/km².

Mazar-i-Sharif has two universities, the Islamic Military University and the civilian Balkh University which has six faculties (colleges) including a faculty of medicine. There are also a number of schools for boys and girls. For health care, Mazar has two hospitals and a number of clinics. The Shrine of the Fourth Caliph of Prophet Mohammad (PBUH) is also in Mazar. Rug and carpet weaving is the main occupation as well as agriculture and livestock, especially the karakul, which have brought hard currency in the past.

محرم ١٢٨١

[illegible]

Reasons for Immunization Failure

[illegible]

[illegible]

Cluster Form
Tetanus Toxoid Immunization of Women

(1) Cluster number: _____ (2) Date: _____ (3) Area: _____ (4) Range of birth dates: From: _____ Until: _____		(5)									TOTAL		
		Mother's name										Card	Card plus History
Woman number in cluster.			1	2	3	4	5	6	7	8			
(6) Birth date of child													
Mother	(7) Immunization card	Yes/No											
	(8) TT 1	Date/+0											
		Source											
	TT 2	Date/+0											
		Source											
	TT 3	Date/+0											
		Source											
	TT 4	Date/+0											
		Source											
	TT 5	Date/+0											
		Source											
	(9) Antenatal care		Yes/No										
(10) Other visits to health facility during last pregnancy		Yes/No											
(11) Delivery of baby	Home												
	HC/HOS												
	Other												
(12) Child protected against neonatal tetanus		Yes/No											

(13) Tally of households visited: _____

(14) Name of interviewer: _____

Signature: _____

KEY: Date/+0:
 Date = copy date of immunization from card, if available
 + = mother reports immunization was given
 0 = immunization not given

Source:
 HC = Health Centre
 HOS = Hospital
 OUT = Outreach
 PRIV = Private

Summary Form: Tetanus Toxoid Immunization of Women, MazariSharif, Afghanistan, January 1994

Cluster #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	% of 212
# in cluster	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	212	
card/yes	0	0	4	2	0	0	0	0	5	0	4	1	3	7	1	2	0	0	3	1	0	3	0	6	5	3	0	0	4	0	54	25.5%
TT1 card	0	0	4	2	0	0	0	0	5	0	4	1	3	7	1	2	0	0	3	1	0	3	0	6	5	3	0	0	4	0	54	25.5%
card + history	6	4	6	5	0	0	1	3	6	7	4	1	3	7	2	4	5	3	4	7	6	3	0	7	6	4	4	0	4	7	119	56.1%
TT2 card	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	3	0	0	0	0	9	4.2%
card + history	0	4	0	4	0	0	1	3	0	0	0	0	0	0	1	4	0	1	3	0	2	0	0	0	1	4	2	0	0	0	30	14.2%
TT3 card	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0.5%	
card + history	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	2	0	0	0	0	1	2	0	0	0	8	3.8%
TT4 card	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
card + history	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	4	1.9%
TT5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
card + history	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	1.4%

Source:

Hos	0	4	5	6	0	0	2	2	4	3	2	1	3	3	1	9	4	4	6	1	10	1	0	6	7	9	12	0	4	3	112	68.3%
HC	0	4	0	4	0	0	0	2	0	4	0	0	1	3	0	0	0	1	0	3	0	0	1	0	0	0	0	0	0	0	23	14.0%
Out	6	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	1	0	0	6	0	0	0	0	0	0	0	0	0	4	19	11.6%
Priv	0	0	1	0	0	0	0	0	2	0	2	0	0	3	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	10	6.1%

antenna+yes	5	2	6	6	1	4	0	1	5	5	4	5	4	7	2	4	4	7	3	4	0	5	8	7	7	3	8	0	4	4	125	% of 212
health vsts/pg	2	5	3	4	5	3	0	3	5	0	2	5	4	6	0	5	1	7	6	0	0	4	8	7	2	6	8	0	5	1	107	59.0%
home del.	7	3	1	4	1	3	1	3	2	3	2	5	1	1	3	3	3	5	4	0	4	1	1	0	1	6	1	3	1	4	77	36.3%
HC/Hos del	0	2	5	2	0	0	3	0	4	4	2	0	3	4	0	2	4	0	1	1	1	4	1	7	6	1	2	4	1	3	67	31.6%
priv/Other del	0	2	1	1	6	4	3	4	1	0	3	2	3	2	4	2	0	2	2	6	2	2	6	0	0	0	5	0	0	0	68	32.1%
child protect/	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	3	0	0	0	0	6	2.8%	

Avg #hh/cluster

Household visit	40	34	25	25	23	19	18	31	17	33	34	18	21	12	21	29	41	23	27	27	20	19	13	11	12	25	17	32	35	35	737	24.0
-----------------	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	-----	------

Summary Form: Infant Immunization, MazarSharif, Afghanistan, January 1994

Cluster #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	Total	% of 212		
# in cluster	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	8	7	7	7	7	7	7	8	7	7	7	7	7	212		
M	4	5	4	4	5	4	1	4	5	3	4	4	4	2	5	4	4	6	4	4	4	2	3	4	2	3	4	2	3	4	3	2	111	52.4%
F	3	2	3	3	2	3	6	3	2	4	3	3	3	3	5	2	3	3	2	3	3	3	5	4	4	4	5	4	3	4	5	101	47.6%	
card/yes	3	1	5	1	1	4	3	2	4	1	4	2	0	4	0	1	3	0	2	2	0	3	4	2	5	3	2	3	2	0	67	31.6%		
BCG card	3	1	5	1	1	4	3	2	4	1	4	2	0	4	0	1	3	0	1	2	0	3	4	2	5	3	2	3	2	0	66	31.1%		
card + history	4	4	6	7	5	7	7	6	7	7	6	5	5	6	5	6	7	6	7	5	7	6	6	7	8	6	7	7	6	5	183	86.3%		
BCG scar	4	4	6	7	5	7	7	6	7	7	6	5	5	6	5	6	7	6	7	5	7	6	6	7	8	6	7	7	6	4	182	85.8%		

[illegible]

	3	1	5	3	1	4	3	2	4	1	3	2	0	4	0	1	2	0	2	2	0	3	4	2	5	3	2	3	2	0	67	% of 212
DPT1 card	3	1	5	3	1	4	3	2	4	1	3	2	0	4	0	1	2	0	2	2	0	3	4	2	5	3	2	3	2	0	67	31.6%
card + history	4	4	6	7	5	5	6	6	6	7	5	5	5	6	5	6	6	7	5	7	7	5	6	5	8	7	7	6	5	174	82.1%	
DPT2 card	3	1	5	3	1	4	3	2	4	1	1	0	0	4	0	1	2	0	1	2	0	3	3	2	4	2	2	3	2	0	59	27.8%
card + history	4	4	6	7	5	5	6	4	6	7	3	3	5	5	5	6	6	5	6	5	7	5	4	5	6	5	7	7	6	5	160	75.5%
DPT3 card	3	1	4	1	1	2	3	1	4	1	1	0	0	3	0	1	2	0	0	2	0	2	3	2	4	2	2	3	1	0	49	23.1%
card + history	4	4	5	3	4	3	6	3	5	7	3	2	1	4	4	5	6	5	6	5	7	5	4	5	5	4	7	6	2	5	135	63.7%

[illegible]

Summary Form: Infant Immunization, MazarSharif, Afghanistan, January 1994

Cluster # 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Total% of 212

in cluster 7 212

OPV1 card 3 1 5 3 1 4 3 2 4 1 0 2 0 4 0 1 2 0 1 2 0 2 4 2 5 3 2 3 2 0 62 29.2%
 card + history 4 4 6 7 5 5 6 6 6 7 2 4 1 6 5 6 6 5 6 5 7 5 6 8 6 7 6 4 5 161 75.9%
 OPV2 card 3 1 5 1 1 4 3 2 4 1 0 1 0 4 0 1 2 0 1 2 0 2 3 2 4 2 2 3 2 0 56 26.4%
 card + history 4 4 6 7 4 5 6 4 6 7 2 3 1 5 5 6 6 5 6 5 7 5 4 5 6 5 7 6 3 5 150 70.8%
 OPV3 card 3 1 4 1 1 2 3 1 4 1 0 0 0 3 0 1 2 0 0 2 0 2 3 2 4 2 2 3 1 0 48 22.6%
 card + history 4 4 5 5 2 3 6 3 5 7 2 2 1 4 4 5 6 5 6 5 7 5 4 5 5 4 7 6 1 5 133 62.7%

Source:

Hos 12 6 17 11 11 13 18 3 12 9 6 9 3 11 2 17 9 15 6 8 15 0 12 15 16 15 21 18 6 15 331 74.5%
 HC 0 3 0 8 0 0 0 9 5 12 0 0 0 4 12 0 6 0 12 7 6 15 2 0 3 0 0 2 0 106 23.9%
 Out 0 3 0 0 0 0 0 1 0 0 0 0 0 0 0 0 3 0 0 0 0 0 0 0 0 0 0 0 7 1.6%
 Priv 0.0%

Measles card 3 1 4 1 1 2 2 1 3 1 2 0 0 4 0 1 2 0 1 2 0 3 2 2 5 2 2 3 2 0 52 24.5%
 card + history 4 3 4 5 3 3 2 3 3 7 4 2 5 5 4 5 5 5 6 5 7 5 3 5 6 4 7 3 5 4 132 62.3%

Source:

Hos 4 1 4 3 3 3 2 1 3 3 3 2 5 4 0 5 2 5 2 3 5 0 3 5 5 4 7 3 5 4 99 75.0%
 HC 0 1 0 2 0 0 0 2 0 4 0 0 0 1 4 0 2 0 4 2 2 5 0 0 1 0 0 0 0 30 22.7%
 Out 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 2 1.5%
 Priv 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0.8%

Not immunzd 3 3 1 0 2 0 0 1 0 0 1 2 2 1 2 1 0 1 1 2 0 1 1 0 0 1 0 0 1 2 29 13.7%
 Partly immunz 1 3 2 6 4 5 5 5 4 6 6 5 5 3 5 5 6 6 3 7 4 4 5 4 4 5 4 5 5 137 64.6%
 Fully immunzd 3 1 4 1 1 2 2 1 3 1 0 0 0 3 0 1 2 0 0 2 0 2 2 4 2 2 3 1 0 45 21.2%
 Full immunzd< 3 1 4 1 1 2 2 1 3 1 0 0 0 3 0 1 2 0 0 1 0 2 2 0 4 2 2 3 1 0 42 19.8%

Household visit 38 34 23 27 33 22 18 37 12 31 38 18 21 14 21 34 37 24 38 32 19 28 12 20 12 33 18 24 19 37 774 25.8
 Avg #hh/cluster

Summary Form: Reasons for Immunization Failure, MazariSharif, Afgh., Jan. 1994

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 Total

Lack of Information- Unaware of /misinformed about:

Lack of Information- Unaware of /misinformed about:																									% of 167		
need for imm	1	3	0	0	1	0	0	1	0	0	0	2	2	0	1	1	0	1	0	0	0	0	0	0	15	9.0%	
need for 2nd,	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	0	4	2.4%	
place/time of	0	0	1	1	0	0	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	4	2.4%	
side-reactions	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	1.8%	
contraindicat	0	0	0	0	0	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	3	1.8%	
other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Subtotal	1	3	1	1	2	0	1	2	1	0	1	2	3	2	2	1	0	1	0	0	1	0	0	1	29	17.4%	

Lack of Motivation:-

Postponed	1	0	0	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	0	10	6.0%
No faith in imr	0	0	1	0	0	0	1	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	1	7	4.2%
Rumours	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0.6%
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.0%
Subtotal	1	0	1	1	1	0	1	0	2	0	1	0	1	0	0	0	0	0	1	0	0	2	1	0	0	1	0	0	1	2	18	10.8%

Obstacles:-

Too far	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	3.0%
Time inconve	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	2.4%
Absent vacct	1	0	0	0	1	3	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	4.2%
Vaccine unav	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.2%
Mother too bi	0	1	0	0	1	2	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	9	5.4%
Family proble	1	0	0	1	0	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	6.6%
Child ill,not br	0	1	1	1	0	0	0	1	2	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13	7.8%
*Child ill,broth	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1.8%
Long waiting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1.2%
Other	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1.8%
Subtotal	2	2	1	3	3	4	1	2	1	5	3	4	1	0	1	2	1	0	2	1	0	2	2	3	3	2	0	1	3	1	59	35.3%

Mother claims baby immunized but has lost card:

0	1	0	1	0	1	0	2	1	3	1	1	0	0	5	4	3	5	6	3	7	2	1	1	0	2	5	2	0	4	6	36.5%
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	-------

TOTAL: 4 6 3 6 6 5 5 6 4 6 7 7 4 7 6 5 7 8 5 7 5 5 5 5 4 5 4 5 4 6 7 167

3. Methodology

The cluster sampling technique has been borrowed from the EPI Coverage Survey Manual of WHO revised in 1991. On arrival at Mazar-i-Sharif, one of the investigators Dr. A.G. Safi visited the Faculty of Medicine of Balkh University and discussed the purpose of the study with Dean Dr. Samandari, a graduate of Kabul Medical Faculty, and with the head of the Department of Preventive Medicine. Six teams, each having one male and one female interviewer, were then selected from among the members of the medical faculty. The training was immediately arranged in the Department of Preventive Medicine starting December 29. When the training was completed, a trial was held on January 1, 1994, among the relatives of the interviewer to make sure that the interviewer had grasped the idea.

Unfortunately, on the second of January 1994, fighting broke out in Mazar-i-Sharif. The fighting continued for about a week, and by January tenth the situation was returning to normal. Since many of the first batch of interviewers belonging to the defeated faction of the warring parties were either arrested or had fled from the area, Dr. Safi again visited the Faculty of Medicine where a new dean, Dr. K. Toura, had been appointed. He too was very cooperative and the interview teams were completed by selecting new members from among the medical faculty.

The training procedure was arranged once again, this time in the Mazar UNICEF Office. Meanwhile Dr. Safi visited the Director of Public Health of Balkh, Dr. R. Haidari, who arranged a meeting with the new governor of Balkh Province, Alhaj Moulavi Mohammed Osman Salekzadah. When the purpose of the study was explained to the Governor, he granted authorization for the survey and provided security for the interviewers as well. A letter of introduction to the Mazar Municipality was issued and a meeting with the mayor was arranged. Again the objectives of the survey were explained. Mayor Mr. Mohammed Omari and Deputy Mayor Mr. Uldash provided a map of Mazar-i-Sharif and a meeting was arranged with the directors of the districts. In the meeting, emphasis was placed on the importance of vital statistics in planning and evaluation. The directors provided the population figures for their respective districts according to sectors and streets. The interview teams were present in all meetings.

The population was arranged to facilitate identification of clusters. Dividing the population of Mazar (331,247) by 30 gave the sample interval of 11,049. In order to identify the first cluster, a random number was selected from a bank note serial number having the same number of digits equal to or less than the sampling interval. The random number came to be 10675. The first community having a population (9024) close to the random number was identified.

The first cluster, the second, and subsequent clusters were identified by adding the population of the subsequent community to the preceding community making a cumulative population. When the cumulative population was equal to the sampling interval or close to it, this was identified as the subsequent cluster. As a part of their training, the interviewers participated in identification of the 30 clusters.

To identify the first household of each cluster the following procedure was followed: In each cluster there were a number of communities or a single large community. The houses in each community were numbered from one end to the other. The center of each community was represented by a market place, mosque or sign post. The first house facing this was selected as the first household of the cluster, the closest house next door or facing the first one was visited next and so on until seven children aging 12-24 months and seven mothers of children aging 0-12 months were located.

On hindsight it is realized that a random number should have been used to determine the first house of the cluster rather than always choosing the center of the community. If a bias was caused by this error, it would most likely have increased the coverage rate of the population surveyed.

The forms were usually filled out by female interviewers. Since the interview time coincided with the time men were out of the house, a female interviewer was an advantage.

Every day after collecting the forms, they were checked and corrected in the presence of the interviewers. The six teams covered the survey in five days, i.e. by the 22nd of January all the forms were completed and checked.

4. Results

In the survey of tetanus toxoid immunizations of mothers of babies less than a year old, 56% claimed they had had at least one tetanus toxoid injection and 59% said they had gone for at least one visit of prenatal care. On the other hand, only 14% claimed to have had two or more immunizations and only 4% had cards documenting this. Thirty-six percent delivered their babies at home while 32% delivered their babies in a hospital or health clinic and 32% delivered in a private maternal home setting. (See Table #1.)

The results of the survey of infant immunization coverage were more encouraging. Although only 32% had cards, 86% had a BCG scar as evidence of their immunization against tuberculosis. (See Table #2.) For measles immunization 25% were documented to have had the vaccine while a total of 62% claimed to have received immunization. (See Table #3.)

The coverage for DPT and OPV were similar to measles. About 23% had cards documenting three doses of DPT while about 64% total claimed to be covered. (See Table #2.) About 23% had cards documenting three doses of OPV while about 63% total claimed to be covered. (See Table #3.)

Of the infants for whom full immunization was not documented on cards, 36% of the mothers gave claimed that their babies were fully immunized but due to moving etc. they had lost their cards. (See Table #4.)

Thirty-five per cent of mothers of infants not fully immunized recalled obstacles preventing immunization, while 17 % were uninformed or misinformed, and 11% lacked motivation. See Table # 4 for specific reasons given by categories suggested by the EPI Coverage Survey Manual of WHO.

The source of tetanus immunizations for the mothers was 68% at a hospital and 14% at a health clinic. (See Table #1.) For the infants, about 75% received immunization at a hospital while about 22% received immunizations at a health clinic. (See Tables #2 and #3.)

6. Discussion

The figures published in UNICEF's "The State of the World's Children, 1994" for the percent of one-year-old's fully immunized in 1990-92 in Afghanistan were 48% with BCG, 27% with DPT and OPV, and 37% with measles. Among pregnant women, only 9% were immunized against tetanus.

Immunization Coverage in Afghanistan '90-92 vs. MazariSharif '93-94

	<u>BCG</u>	<u>DPT</u>	<u>OPV</u>	<u>Measles</u>	<u>Maternal TT</u>
Nationwide Statistics of Afghanistan 1990-92	48%	27%	27%	37%	9%
Study Results of Mazari- Sharif, Afgh., 1993-94	31%	23%	23%	25%	4%

As noted in the above table comparison of the nationwide immunization statistics reported by UNICEF for the 1990-92 period and those obtained from this study show a decline in the immunization coverage. In this case we are considering only the coverage **documented on the immunization cards** held by the infants or mothers, which we presume was the standard of the previous survey in 1990-92.

Because the nationwide immunization coverage of 1990-92 is considered to be an overall average of urban plus rural coverage, one would expect an urban area such as MazariSharif to have better coverage. The fact that the current MazariSharif coverage is lower may be due to conditions of war. Particularly, the shift of war to the capital (Kabul), the center of the national health programs, may have had a deteriorating influence on the immunization services in MazariSharif over the past two years. Another reason that the coverage is reduced may be due to the moving of families from rural areas to the relative safety of MazariSharif and therefore changing the urban character of the said city. During the last three years, the population of MazariSharif has indeed increased by almost three times, from an estimated population of 128,000 in 1990 to 331,000 in 1993.

On the other hand, finding 86% of one-year-olds in the survey to have a BCG scar is quite impressive. This is a considerable improvement over the 1990-92 figure of 48%. In addition, the scar is evidence of the veracity of mothers' claims when there was no card documenting the immunization. Only 31% had cards documenting BCG but 86% of the mothers claimed their infants had had the immunization, and only one of these infants was found not to have a scar. (See Table #2).

Among DPT, OPV, and measles, the lowest differential between those having card evidence and the total of mothers stating that their children were immunized was 37% for measles vaccine (62% "card + history" - 25% "card" = 37% toddlers immunized but not having cards). (See Table #3.) This corresponds very well with the 37% of mothers claiming their children were fully immunized but the cards were lost. (See Table #4.) Realizing that the recent fighting had likely disrupted many households, we could also expect more lost cards.

For these reasons we could consider accepting the "card + history" figures and report the results as follows: Of one-year-old infants in MazariSharif, 86% were immunized with BCG, about 63% were immunized with DPT3, OPV3, and/or measles, while about 58% were fully immunized, counting 21% with cards plus 37% without cards.

Among the mothers of infants less than a year old who were questioned about tetanus toxoid immunizations prior to the birth of their child, only 4% had cards to document two tetanus immunizations and only 3% had immunizations within the required time period before their delivery. If we accept the mothers' verbal claims as well as written documents, the figure rises to 14% of mothers having two tetanus toxoid immunizations prior to the birth of their last child. (See Table #1.)

Considering the reasons given for failure to immunize infants, there needs to be a correction in the "Summary Forms" to separate those who claimed to be fully immunized but had lost their cards from those who admitted not being fully immunized and giving some reasons for it. In Table # 5 only those mothers giving reasons for failure to immunize their children (n=106) were considered. The reasons given were regrouped by considering how their problems could be solved so that better coverage could be achieved. The results are as follows:

In about 31% of the cases, the mothers were not fully aware of the necessity of obtaining immunizations for their children in general. In this group, the reasons given included lack of information about the need for immunization, lack of faith in immunizations, and merely postponing immunizations. A public education campaign about the need for immunizations may improve their information and motivation.

About 23% of the "reasons" were due to logistical problems such as an absent vaccinator, unavailable vaccine, long waiting lines, center too far away, time inconvenient, or lack of information of the time and place of immunization. Another 25% were due to lack of information specifically at the clinic at the time the immunization is given. These include mothers who were unaware of the need for a 2nd or 3rd dose, misinformed about side-reactions and contraindications, and not bringing a child that was "ill". These logistical problems and specific educational deficiencies suggest ways that the vaccination program in the hospital or clinic could improve.

About 19% were due to problems at home such as the mother being too busy or being ill. These reasons suggest that either the family needs to be more motivated to overcome these obstacles or that a door-to-door outreach program is needed.

Concerning the "source" of immunizations, about three-fourths were at a hospital and one-fourth at a health clinic, with insignificant reporting of outreach or private immunizations. These figures may obscure the real "source" of immunizations. For instance, were the immunizations at the hospital sponsored by the hospital or by some other organization on an outreach program?

7. Conclusions

The chief findings of this January 1994 survey of immunization coverage among mothers of newborns and among one-year-olds in MazariSharif are as follows:

- a. Considering only immunizations documented on cards, the immunization coverage has decreased since 1990.
- b. Evidence of BCG scar, however, was found in an impressive 86% of cases.
- c. Considering all immunizations of one-year-old infants claimed by their parents in the survey, about 58% were fully immunized, counting 21% with cards plus 37% without cards.
- d. The reasons parents gave for failure to fully immunize their children suggest that further educational campaigns and outreach programs are needed as well as more specific instruction given to parents who bring their children for immunization.

To learn more about the statistics of immunization in Afghanistan the authors suggest further studies of samples of Afghan populations that represent the rural as well as the urban areas of the nation. It is further suggested that the immunization coverage be correlated with the infant and maternal mortality rates in areas where the latter data is also available so that the real impact of immunization on mortality could be assessed.

Table # 1: Tetanus Toxoid Immunization of Women
MazariSharif, Afghanistan, January 1994

	Total	% of 212
# in cluster	212	
card/yes	54	25.5%
TT1 card	54	25.5%
card + history	119	56.1%
TT2 card	9	4.2%
card + history	30	14.2%
TT3 card	1	0.5%
card + history	8	3.8%
TT4 card	0	0.0%
card + history	4	1.9%
TT5	0	0.0%
card + history	3	1.4%
Source:		% of 164
Hospital	112	68.3%
Health Centre	23	14.0%
Outreach	19	11.6%
Private	10	6.1%
		% of 212
Antenatal care-yes	125	59.0%
Other health visits/pg	107	50.5%
Home delivery	77	36.3%
HC/Hos delivery	67	31.6%
Private mat. home del.	68	32.1%
Newborn protected against tetanus	6	2.8%
Households visited	737	24.6